

STUDENTS' PERCEPTIONS OF FOOD AND FACTORS THAT INFLUENCE  
PURCHASING DECISIONS

A Thesis

by

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## ABSTRACT

When it comes to food, college students need help selecting healthy food choices. Students are presented with many options to purchase food at grocery stores and restaurants and many of these options include organic food. Previous studies have demonstrated a need to investigate the college demographic and their purchasing habits when selecting food. The growth of news television channels, the Internet, magazines, and reality television have given the public a variety of choices to get their information. However, the credibility of their sources is not always trustworthy when it comes to agriculture. The goal of this study was to determine students' perceptions of food and factors that influence purchasing decisions. Texas A&M University U4 classified students in the departments of political science, animal science, biology, and agricultural leadership, education, and communications (n=578) received an online survey. The survey identified students' perceptions of food, the sources of information used to find food, food attributes, and the demographics that influence willingness to pay for food. Students in this study were more knowledgeable than previous studies with 70.4% of students identifying the correct definition of organic and 67% correctly recognized the USDA organic seal. This study also suggests that labels influence their opinion of food and ranked package information as the most important factor when ranking food attributes. Also, the study found that family does influence students' decision to purchase food and celebrities influence student's students' perceptions of organic food.

## DEDICATION

This degree is dedicated to my mom and dad, Tom and Sherri Smith. Thank you for your never-ending support, guidance, and love. Without you, I never would have made it six years in Texas away from my family, horses, and the farm. I would also like to dedicate this to those who have pushed me to never stop short of accomplishing my goals. I would have never thought I would write and present a master's thesis, but with the goal of always pushing myself to be better, here I am today. For all of those who question their ability, you never know until you try, so try.

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## 1. INTRODUCTION

When it comes to food, college students need help selecting healthy food choices. Peterson, Duncan, Null, Roth, and Gill (2010) noted “it is well established that college students need guidance on making healthful food decisions” (p.425). Their diets are high in fats, low in fiber, and rarely meet the five or more servings of fruits and vegetables a day (Méplan et al., 2012). Food choices have a significant impact on daily life, health, and well-being so it is important to understand the factors that influence college students’ food choices (Méplan et al., 2012). Méplan et al. (2012) hypothesized that food stereotypes, such as healthy foods are not as enjoyable as unhealthy foods, influence peoples disinterest in making healthy food choices.

So where do they look for information on what to purchase? Which options are best for their diets, weight loss, etc.? On college campuses, students are provided with relevant information regarding benefits of healthy eating so they become more aware of healthy food choices available to them. A study by Conklin, Lambert, and Cranage (2005) found that two-thirds of their respondents reported they were more aware of nutrition labels posted in their dining hall and one-third used them to guide their food choices. Nutrition labels contain information about calories, fats, carbohydrates, sodium, vitamins, and ingredients. Conklin et al. (2005) study showed that students are coherent to the signs guiding them toward healthy food choices. But what other factors cause them to make most food purchases?

A college student has many available sources to find information about food. Their typical morning consists of waking up, checking their phone, and eating. In a time where the Internet can be accessed from your bed via smart phones, tablets, or computers while watching television, people are connected to media. Before the Internet boom, current news and information was found via newspapers and on television. Now, news is accessible twenty-four-seven via news channels, cable news, the Internet, Facebook, Twitter, and other various outlets. According to New York Times article, Internet usage from 2005 to 2010 has increased 121 % (Brustein, 2010). From an agricultural standpoint, a 2002 study on gate keeping decisions and the Arkansas daily newspaper editors in publishing agricultural news revealed editors' decisions to print agricultural news was the interest of the story to the local community (Cartmell, Dyer, & Birkenholz, 2000). By studying the demographics of the editors and their educational backgrounds, 76% had never taken a course in agriculture (Cartmell II et al., 2000). Technology has increased efficiency therefore fewer people are working on the farm, thus widening the gap between agriculture and society which is why agriculture communicators are important (Sprecker & Rudd, 1996).

According to a study in the Journal of Adolescent and Adult Literacy, 95% of college students use the Internet every day (Mokhtari, Reichard, & Gardner, 2009). They make decisions based on personal experiences, what they learned in college, and information presented to them by the media. Since the majority of college students become independent after graduation and inherit students loans, their social responsibility is also now on their shoulders (Rothstein & Rouse, 2011).

Social behavior is important to understand when looking at people's actions and behaviors. Based on Jager's 2000 model of consumer behavior, people frequently follow social norms because they not only fear social pressure, but also because they [social behaviors] give information about what actions are most appropriate or beneficial (Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009). It is important to note that people treat the media as though it was human and foster a psychological relationship with the media (Meyer, Marchionni, & Thorson, 2010; Reeves & Nass, 1996). This may explain why people rely so heavily on news outlets and social media to find information. Since people are also limited to who they can converse with, celebrities can reach millions of people and in turn, those people associate beliefs and perceptions with celebrities because the audience feels they have a relationship with celebrities (Morin, Ivory, & Tubbs, 2012). Celebrity endorsements are important because they influence individuals to form a deeper bond even though they do not know that person intimately (Brown & Basil, 2010; Morin, Ivory, & Tubbs, 2012; Schiappa, Gregg, & Hewes, 2005).

In addition to social behavior, social marketing has an effect on promoting nutrition knowledge and awareness to college students (Peterson et al., 2010). Social marketing is a tool to change attitudes and/or behaviors, including thoughts, actions, or values, influence the acceptability of an idea, and to "change a specific behavior by influencing voluntary health behaviors" (Maibach, Rothschild & Novelli, 2002; Peterson et al., 2010). Since millennials have grown up with multiple sources of information and have been exposed to various marketing tools, marketers have to be creative with their

promotions. It is important to question to what extent brands' promotional claims are true in order to draw in consumers.

Students are exposed to many factors that influence their food purchases. Without marketers giving the proper definitions and credibility that consumers need in order to be properly informed about their purchasing decisions at point of sale, consumers can be making uninformed decisions. Méplan et al. (2012) found that exposure to negative social information about food or a drink resulted in less positive liking towards product evaluations than exposure to neutral social information about food or drink. This shows that outside factors like friends, the Internet, television, and magazines do have an effect on people's perceptions of food. This presents a problem, especially when it comes to making informed decisions about purchasing food. Therefore, a study needs to be done to identify what factors influence college students' decisions to purchase food.

#### Statement of the Problem

Overwhelming access to sources of information has given consumers the opportunity to make choices and decisions about food and food practices without checking the reliability of their sources. If they are making decisions based on outside opinions and sources regardless of their credibility, which factors are influencing their food purchases?

## Purpose and Objectives

The purpose of the study is to determine college students' perceptions about food. Specific objectives and hypotheses for the study are:

1. Identify factors that influence students' perceptions of food
2. Identify the sources of information used to find information about food
3. Identify food attributes
4. Identify demographics that influence willingness to pay for food

## Definition of Terms

Organic: a labeling term that indicates that the food or other agricultural product has been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used ("Labeling organic products," 2012).

Natural: applies broadly to foods that are minimally processed and free of synthetic preservatives; artificial sweeteners, colors, flavors and other artificial additives; growth hormones; antibiotics; -hydrogenated oils; stabilizers; and emulsifiers. Most foods labeled natural are not subject to government controls beyond the regulations and health codes that apply to all foods (Food Marketing Institute, 2001).

Credence: a quality that consumers cannot fully appreciate even after consumption, e.g. nutrition, GMS, pesticide, and environment (Onozaka, 2007).

Conventional agriculture: the use of chemicals and pesticides to stimulate growth and protect crops (Morgan & Murdoch, 2000).

Willingness- to- Pay (WTP): what consumers are willing to trade for particular product attributes (Bond, Thilmany, & Bond, 2008).

Subjective or Social Norms: the perceived social pressure for a person to engage or not engage in a behavior; determined by the social set of accessible normal beliefs concerning the expectations of important referents for this person (e.g. family or friends) (Aertsens, Verbke, Mondelaers & Van Huylenbroeck, 2009; Ajzen, 2006).

Personal Norms: an individual's conviction that acting in a certain way is right or wrong and when people do not yet have clearly formulated personal norms toward specific actions, when called on to act, they can crystallize norms based on their general values (Aertsens, Verbke, Mondelaers & Van Huylenbroeck, 2009).

## Review of Literature

### The college food consumer

College students are not the healthiest segment of the population. Based on a study by Freedman and Connors (2010), 25% of college students are obese, few meet dietary guidelines for Americans, and many are developing dietary habits that influence later health risks. More than one-third of U.S. adults (35.7%) are obese ("Overweight and obesity," 2012). Because of this, it is important to determine how information provided to college students influences their purchasing habits. College students living arrangements have been reported to influence food choices, nutrient intakes, and

physical activity patterns. Financial problems and access to foods are other factors that influence student food consumption (Brevard & Ricketts, 1996; Driskell, Kim, & Goebel, 2005).

Davy, Benes, and Driskell (2006) identified various factors that influence students' selection of food. These factors include shortage of time, taste, health, physical and social environment, and weight control. Levi, Chan, and Pence's (2006) study found respondents rated the importance of cost, convenience, healthfulness, mood, food quality, food appearance, taste, label information, and being organic relative to what they ate as factors that influenced their food choices. Driskell, Kim, and Goebel's (2005) study found convenience, taste, cost, health, weight control, and family/friends are the main factors that influence food choices. By gender, female respondents considered healthiness, mood, quality, appearance, taste, and label information to be of significantly greater importance than did their male counterparts. Both sexes perceived cost as equally as important. Organic content was perceived as the least important decision factor by their college age sample (Driskell, Kim, & Goebel, 2005).

According to Davy, Benes, and Driskell (2006), by gender, women tend to purchase food with the desire to lose weight while men want to gain weight. In a study of 105 male and 181 female undergraduate students at a large Midwestern university, Davy, Benes, and Driskell (2006) found that a significantly larger percentage of men obtained most of their nutrition knowledge from family members (58.0% vs. 40.0%) and magazines/newspapers (43.1% vs. 30.5%). The study also surveyed where students found their information. Seventy-two percent of college students in the study used

television the most to find information about nutrition (Davy, Benes, & Driskell, 2006). This was followed by in descending order of use of magazines, newspapers, family and friends, and the Internet as the last source for information.

Levi, Chan, and Pence's (2006) study found food decisions to be of greater personal importance and relevance to female students than to their male counterparts. They also found that female and male students have different levels of involvement in their food decisions. Overall, their level of interest in thinking about deciding how much or what to eat is best expressed by social and cultural expectations (Levi, Chan, & Pence, 2006). A collection of studies found that female students were nearly three times more likely than men to be "restrained eaters" expectations (Levi, Chan, & Pence, 2006). A content analysis of magazines most commonly read by young men and women showed that those aimed at girls and young women contained nearly eleven times more articles related to dieting and weight than did men's magazines (Anderson & DiDomienico, 1992; Levi, Chan, & Pence, 2006).

Past research found sensory appeal, healthiness, convenience, and price to be the top factors influencing food choice (Scheibehenne, Miesler, & Todd, 2007; Steptoe, Pollard, & Wardle, 1995; Tobler, Visschers, & Siegrist, 2011; Van Birgelen, Semijn, & Keicher, 2009). Eco-friendliness did not have an impact on food choice (Scheibehenne, Miesler, & Todd, 2007; Steptoe, Pollard, & Wardle, 1995; Tobler, Visschers, & Siegrist, 2011; Van Birgelen, Semijn, & Keicher, 2009). This information did not include social influences as factors. Overall, the factors that influence students' perceptions of food effect their purchasing decisions.



## Formation of consumer attitudes

It is important to understand how young adults form attitudes towards products and develop brand loyalty. Ward, Wackman, and Wartella (1977) found that parents influence their children's "consumer socialization" in three ways: acting as models, directly interacting with their children in a variety of consumption related contexts, or by providing children with independent opportunities for purchasing. Learning by observation, communication, and experience are other ways that underlie the parental influence (Ward, et al., 1977).

Moore-Shay and Lutz (1988) said research indicates parents influence their children in economic-management skills, buying styles, and brand and product preferences. Their study of 49 college females and their mothers showed that 46% of mothers accurately predicted their daughter's preferences when selecting high-visibility brands while grocery shopping.

Two studies from Thogerson and Olander (2006) found that the effect of personal norms on organic food purchases was stronger than the effect of subjective (social) norm (Aertsens, et al., 2009). Bartels and Reinders (2010) cited Stewart and Lacassagne(2005) acknowledging that social representations refer to "what people think or believe they know concerning social objects or situations." On the other hand, people's personal norms result from that individual's values. However, Thogerson and Olander (2006) also found "nonmotivational reasons are to be found both within the individual (e.g., task knowledge achieved by previous experience that enables an individual to repeat the behavior in a consistent fashion) and in the external environment

that must support the repeated performance of the behavior (p. 1760).” Thogerson and Olander’s (2006) study found truth in both claims and that one can get a deeper understanding of the attitude–behavior relationship in the environmental field by analyzing the dynamic interaction over time between relevant attitudinal variables (beliefs and norms in this case) and specific behaviors of interest. This shows the effect of personal norms and social norms can come from habits and outside factors. More importantly, these behaviors can help researchers understand why students purchase food.

#### Celebrity influence among adolescents and young adults

By popular definition, a celebrity can be an actor, musician, professional athlete, television star, or politician. According to Fraser and Brown (2002), “a celebrity is someone who is simply known and may or may not serve others sacrificially (p.185).” They can earn name recognition by their talent, appearances, or in some case, lack of talent and integrity. Within the past decade, celebrities have been able to reach a broad audience through personal Facebook pages and Twitter.

Celebrities can reach a broad audience through news programs, late night talk shows, movies, concerts, and sporting events, whereas the average American is limited in whom he/she can converse with (Morin, Ivory & Tubbs, 2012). Advertisers often hope celebrity spokespeople will persuade consumers to make a purchase and positively influence consumer attitudes towards a product (Morin, Ivory & Tubbs, 2012). Studies show celebrity endorsements influence consumer attitudes, voter perceptions, and

behavior intentions (Agrawal & Kamakura, 1995; Atkin & Block, 1983; Austin et al., 2008; Ferle & Choi, 2005; Jackson, 2009; Mittelstaedt et al., 2000).

There are two opposing opinions as to what extent celebrities influence consumerism. Agrawal and Kamakura (1995), believed “celebrities make advertisements believable, enhance message recall, aid in the recognition of brand names, create positive attitudes towards the brand, and create a distinct personality for the endorsed brand (p. 56)”. However, Goldsmith and colleagues (2000) found that celebrity endorsements do not necessarily affect the consumer’s attitude towards the brand (Morin, Ivory & Tubbs, 2012).

Using the meaning transfer theory, McCracken (1989) explains how celebrity characteristics are transferred to the product. Product meaning and credibility are transferred to the consumer whose view is shaped by the celebrity because of the consumer’s fostered relationship with that celebrity. This theory disagrees with Goldsmith and colleague’s (2000) study that celebrity endorsements do not necessarily affect the consumer’s attitude towards the brand (Morin, Ivory & Tubbs, 2012).

From a food perspective, it is common to hear celebrities discuss their diets. The option of organic food is something that is commonly touted among celebrities. A website called “Foodista” lists six female celebrities who promote an organic lifestyle (Nazarali, 2012). Most famous actors and actresses are beautiful and have beautiful bodies. Is it that farfetched to believe that if they follow a specific diet, their body is attainable for the average person? These questions go hand in hand with the theory that

people relate to celebrities because they share certain values, which may influence their perceptions of food.

#### College students source of news

The Internet provides college students with news in seconds. Any student has access to complete text of daily newspapers prepared by professional journalists and editors worldwide, in addition to unfiltered news items delivered by search engines (Diddi & Larose, 2006). Smart phones and access to computers make it easy for students to access information. Diddi and Larose (2006) argued that among college students, the Internet is a “woven fabric” in their daily lives using the Web for news and entertainment. Parker and Plank (2000) found that college students relied very heavily on the Internet as an information source. Metzger, Flanagin, and Zwarun (2003) suggest that college students used the web for both academic and general information, including entertainment and news.

College students are fortunate to be in an environment where information can be at their fingertips in seconds. Now more than ever, people can choose from a variety of sources where they find their information. Mainstream media frequently report information on nutrition (Levi, Chan, & Pence, 2006). College students translate nutrition knowledge into food choices (Petty & Cacioppo, 1996). This concept is based on Petty and Cacioppo’s (1996) idea that changes in one’s beliefs lead to changes in one’s attitude and behavior. This also relates to Thogerson and Olander’s (2006) study, which found environmental factors influence people’s norms and behaviors, which can effect students’ perceptions of food.

## Nutrition labeling and college students

College students are an appropriate representation of millennials in the US population because what they do now in terms of healthy eating will affect their health and behavior in the future (Marietta, Welshimer, & Long, 1999). This makes them more aware of what they are eating (Marietta, Welshimer, & Long, 1999). According to the Marietta, Welsheimer, and Long (1999) study, college students either strongly agreed or agreed that printed food labels were useful tools.

Most students (72.1%) responded that they would purchase, at least sometimes, a product with a health claim on the label rather than a similar product with no health claim (Marietta, et al., 1999). Yang and Chiou (2010) suggest that food labels influence students' decisions to purchase healthier foods. Nutrition labeling schemes at point-of-choice are environmental strategies that increase opportunities for behavior change. They provide consumers with information to guide them towards healthier food choices (Holdsworth & Haslam, 1998). However, nutrition labeling cannot compete aesthetically with the graphics intensive, eye catching commercial food promotions while shopping for food (Buscher, Martin, & Crocker, 2001). Marketing campaigns and promotions can be designed to target men and women separately or as a singular demographic. Levi, Chan, and Pence's (2006) study found that the cultural coding of high involvement in food decisions as feminine actively discourages men from being highly involved in accessing and acting on nutritional information, such as reading product labels and recognizing their meaning.

For college students, it is hard to bypass pictures and signs of juicy burgers, chips, and other foods that are not as healthy as a bag of lettuce. Buscher, Martin, and Crocker (2001) found that for students, nutrition labeling serves more as a reminder than a pressure to purchase healthy foods. If convinced to purchase and consume a particular food, they may be more likely to incorporate it into their diet on a regular basis. A study by Conklin, Lambert, and Cranage (2005) found that two-thirds of their respondents reported they were more aware of nutrition labels posted in their dining hall and one-third used them to guide their food choices. Levi, Chan, and Pence's (2006) study found female subjects pay more attention to their food choices that promote a healthy lifestyle through nutrition information. The amount of attention students' pay toward nutrition labeling and package information can effect their purchasing decisions.

#### Willingness to pay

It is estimated that the spending power of all college students is more than \$90 billion dollars with full-time, four-year enrollees spending an aggregate of \$30 billion a year. Of the \$30 billion, it is estimated that \$23 billion is being used for essential purchases such as rent, food, gas, car insurance, tuition, and books and \$7 billion in nonessential "pizza" money (Ring, 1997; Warwick & Mansfield, 2000).

Price of product is a factor that influences people's decisions to purchase food. The cost of healthy foods may be a perceived barrier to healthier eating (Cade, Upmeier, Calvert, & Greenwood, 1999; Glanz et al., 1998; Yang & Chiou, 2010). This is important to this study because college students rely on their own income or outside income, or financial aid, which can both have a serious impact on their decision to

purchase organic or conventionally-grown produce. There is a widespread perception that organic foods are expensive and the primary barrier to purchasing organic food was the consumer's level of personal income (Davies, Titterington, & Cochrane, 1995). Students' attitude towards organic food may affect their willingness to pay an organic premium.

#### Attitudes and behaviors of college students toward organic produce

An interest in organic foods or alternative food choices is evident in college-age individuals who show an increasing enthusiasm for a healthy lifestyle (The National Organic Program, 2007). In a study on college students perceptions of organic food, Dahm, Samonte, and Shows (2009) surveyed 443 college students enrolled in an entry-level political science classes at a southeastern university about their perceptions of organic food. Forty-nine percent of students correctly identified the correct definition of the term "organic" and 31.7% recognized the USDA organic seal (Dahm, Samonte, & Shows, 2009). Of the forms of organic foods available for purchase, produce was the most recognized form (87.1%) (Dahm, Samonte, & Shows, 2009). More than half (56.4%) of the students were neutral about their opinion of organic foods (Dahm, Samonte, & Shows, 2009). The study found a positive relationship between the knowledge of organic foods and the definition of the term organic. Recognition of the organic seal and opinion about the taste of organic food compared to conventionally-grown produce also showed a significant positive relationship (Dahm, Samonte, & Shows, 2009).

In terms of gender, Dahm, Samonte, and Shows (2009) found that an equal number of males and females knew the correct definition of the term organic, recognized the USDA seal, and expressed a positive attitude towards organic foods. Most previous studies showed that either solely women or solely men showed positive attitudes and behaviors towards organic food (Dahm, Samonte, & Shows, 2009). Students' perceptions and attitudes towards organic may have an effect on their purchasing decisions.

#### Summary

There will always be an overwhelming amount of sources for students to choose from to find information. No one will ever collectively agree on what is the best way to find information about food. Ultimately, it is the outside influences and factors that influence students' decisions to purchase food and which students value most is important. A need is present to understand what factors influence students' perceptions of food. Therefore, the following objectives were proposed:

1. Identify factors that influence students' perceptions of food
2. Identify the sources of information used to find information about food
3. Identify food attributes
4. Identify demographics that influence willingness to pay



## Research Design

Previous research has examined perceptions of food and the extent to which people purchase organic food, however little research can be found that examines the college student demographics and their perceptions of organic food.

This quantitative descriptive research study seeks to identify the reasons why students purchase food and the sources of information (i.e. magazines, television, the Internet) that influence students' decisions to purchase organic food over conventionally-grown foods. Hammond's (1948) error-choice method assumes respondents have attitude bias, which applies to the multiple-choice questions where students' will be presented with a correct and incorrect answer (Eagly and Chaiken, 1993).

A survey will be employed because it has been identified as a quick, quantifiable, and inexpensive method of data collection (Dillman, 1978). It is a purposive sample of U4 students nearing graduation. A purposive sample was used because it is non-representative of a larger population (Sommer). The sample is across U4 classified students at Texas A&M University because it will be given to four different department classifications: political science, animal science, biology, and agricultural leadership, education, and communications. These departments were selected because two are agriculture based and two are non-agriculture based. Since the survey utilizes online data collection there may be more distractions to the respondents than in a classroom setting.

The study was distributed to 1,400 senior (U4) classified students in the departments of political science, animal science, biology, and agricultural leadership, educations, and communications. Table 1 shows he breakdown of students per major.

Table 1.1

<i>Breakdown of Students Per Department (n =1,400)</i>	
Major	Enrollment (n)
Political Science	222
Animal Science	288
Biology	406
Agricultural Leadership, Education, and Communications	484
Total	1,400

Students were identified by their U4 classification and their department. There was no personal student identification required for participation in the survey. The only way students were identifiable was if they choose to enter email addresses for the random drawing at the end of the study. The first page of the survey outlined the consent information and gave students the option to accept or decline their participation in the survey.

The survey was a modified version of Beaudrault's (2006) and Dahm and Shows' (2009) instruments measuring students' perceptions of the media and organic food. In order to protect the students' confidentiality, their emails were removed from the data as soon as drawing winners were randomly selected and contacted. Because bulk mail does not allow tracking or follow-up with non-respondents, the results are only representative of the participapnts. The link to the survey was distributed twice over the course of four weeks.

The survey was designed in Qualtrics™ and sent via an email link. Students were able to answer the questions at home, on campus, or anywhere they had access to the Internet.

The survey consisted of questions about demographics, where students get their information about food, their knowledge of food availability, and their purchasing behavior. There were multiple choice and Likert- scale questions. Since this study combined two previous studies, the reliability should be consistent with the previous studies' results, and therefore valid. A pilot study of ( $n=31$ ) students was also used to test reliability. Comparisons to Damn and Shows (2009) and Beaudault (2006) were made to check the validity of the study.

### Variables and Hypotheses

The independent variables were the demographics collected in the questionnaire including gender, race, political ideology, and major. The dependent variables were the scaled responses of perceptions toward food, factors that influence those perceptions, sources of information, and food attributes that lead to purchasing food. Each objective is outlined below.

1. Identify factors that influence students' perceptions of food
2. Identify the sources of information used to find information about food
3. Identify food attributes
4. Identify demographics that influence willingness to pay

## Population and Sample

Texas A&M University's Fall 2012 enrollment was 40,100 undergraduate students; 22,364 males and 20,150 females. Of those students, 5,976 are in the College of Agriculture and Life Sciences, 6,663 are in the College of Liberal Arts, and 2,697 are in the College of Science. There are 13,326 (N) U4 classified students (Texas A&M University Data and Research Services, 2012). Students in the departments of political science, animal science, biology, and agricultural leadership, education and communication were selected based on their U4 classification. The purposive sample size is  $n=1,400$ .

The groups of students were selected based on their hard and social science affiliation. Political science and agricultural leadership departments represent the social sciences. Biology and animal science departments represent the hard sciences.

## Instrumentation

The researcher obtained the right to email the U4 students in political science, agricultural, leadership, education and communications, biology, and animal science at Texas A&M University through the use of TAMU bulk email. The email contained a letter from the researcher that explained the need for the participants to complete the survey, accessed through a link embedded in the letter. The web survey conducted followed the recommendations of Dillman's Tailored Design Method (Dillman, 2006). This research was approved by TAMU Human Subjects (IRB # 2012-0219).

The researcher developed a survey using Qualtrics™ software. The first and final parts of the survey included demographic questions asking students' major, their knowledge of the USDA, knowledge of organic information, lifestyle attributes, and political ideologies. The demographics also measured students' awareness of the availability of organic food and their opinion of organic food.

Next, the survey asked students overall attitude towards organic food. If the students selected "I do not eat organic food", they were skipped to a question, which excluded their opinion of organic food and just answered their perceptions of food. If students' chose an option that included organic food, they were asked to rank factors that influenced their decisions to purchase organic food and the importance of those factors. These questions were modified from Beaudrault's survey (2006) and Dahm and Shows' survey (2009).

Students were then asked to mark the statements best described their opinions of food and organic food. If a student chose "I do not eat organic food," they skipped the group of questions about organic food and only answered the questions about food. These questions used a five-point Likert-scale to measure students' perceptions using "Strongly Disagree", "Disagree", "Agree", "Strongly Agree", and "Neither Agree nor Disagree". Examples of these questions include "I view celebrities' (musicians, actors, artists, athletes) perceptions of non-organic food as positive" and "Politicians influence me to purchase food." Finally, questions in this section explored students' willingness to pay for food and organic food.

The next section of the survey asked students to rank their trustworthiness of sources of information. Government internet, social media, blogs, print, television, and radio were included as the sources. Students were asked to rank in order from most to least used to find information about food.

The survey was pilot tested using students (n=31) enrolled in a Summer 2012 agricultural communications and journalism class. The students who completed this survey ranged from U2 to U4 classification. For the question about students' perceptions of food, results yielded a reliability of  $\alpha = .79$ . For the question about students' perceptions of organic food, results yielded a reliability of  $\alpha = .87$ .

The final survey instrument was adjusted based on student recommendations from the pilot test. Questions that were difficult to understand were reworded for clarity and formatting. Students who completed the pilot test provided a written explanation of what was difficult to understand on the instrument.

### Data Collection

After additions were added to the instrument, data were collected through Qualtrics<sup>TM</sup>, an online survey database. A letter of participation explaining the research project and instructions for completing the survey was distributed via TAMU bulk email to the political science, animal science, biology, and agricultural leadership U4 classified students at Texas A&M University with a link to the web questionnaire in September of the 2012 fall semester. The survey was distributed two times, once every two weeks, for four weeks. The survey took a maximum of 10 minutes for participants to complete. The

participants were able to take the survey via a computer or their Internet-enabled cell phone. All respondents were ensured that their responses would be anonymous. Post-hoc reliability estimates yielded a Cronbach's coefficient of  $\alpha = .82$ , indicating an acceptable level ( $> .80$ ) of reliability (Field, 2009).

### Data Analysis

The data collected was exported into IBM's Statistical Package for the Social Science (SPSS), version 20.0, for data analyses. Descriptive statistics (mean, standard deviation, and frequencies) were used to analyze the data for all objectives. The question about students' perceptions about food and organic food were attitude questions. Of the twelve sub-questions about students' perceptions of food, "Brands of food do not influence my perceptions of food", "Prices of food do not influence my perceptions of food", and "My friends do not influence my decisions to purchase food" were reverse coded using SPSS to improve reliability. Additionally, of the thirteen sub-questions about students' perceptions of food, "Brands of organic foods do not influence my perceptions of organic food", "Prices of organic food do not influence my perceptions of organic food", and "My friends do not influence my decisions to buy organic food" were reverse coded using SPSS to improve reliability. Frequencies were used in Objective 1. Pearson correlations were used for Objective 2, Objective 3, and Objective 4. Kendall's Tau was used in Objective 4.

## 2. COLLEGE STUDENTS' PERCEPTIONS OF FOOD

Students are exposed to many factors that influence their food purchases.

Without giving the proper definitions and credibility that consumers need in order to be properly informed about their purchasing decisions at point of sale, they can be making uninformed decisions. Across two studies, Méplan et al. (2012) found that exposure to negative social information about food or a drink resulted in them liking products less with exposure to neutral social information about food or drink. This shows that outside factors like friends, the Internet, television, and magazines have an effect on people's perceptions of food. This presents a problem, especially when it comes to making informed decisions about purchasing food. Therefore, it is important to identify the degree to which the media influences college students' decisions to purchase food.

When it comes to food, college students need help selecting healthy food choices. Peterson, Duncan, Null, Roth, and Gill (2010) noted "it is well established that college students need guidance on making healthful food decisions" (p.425). Their diets are high in fats, low in fiber, and rarely meet the five or more servings of fruits and vegetables a day (Méplan et al., 2012). Food choices have a significant impact on daily life, health, and well-being so it is important to understand the factors that influence college students' food choices (Méplan et al., 2012). Méplan et al. (2012) hypothesized that food stereotypes, such as healthy foods are not as enjoyable as unhealthy foods, influence people's disinterest in making healthy food choices.



So where do they look for information on what to purchase? Which options are best for their diets, weight loss, etc.? When college students are provided with relevant information regarding benefits of healthy eating, they become more aware of healthy food choices available to them (Conklin et al, 2005). A study by Conklin, Lambert, and Cranage (2005) found that two-thirds of their respondents reported they were more aware of nutrition labels posted in their dining hall and one-third used them to guide their food choices. Nutrition labels contain information about calories, fats, carbohydrates, sodium, vitamins, and ingredients. Conklin et al.'s (2005) study shows that students are coherent to the signs guiding them toward healthy food choices. But what other factors cause them to make most food purchases?

### Conceptual Framework

#### The college food consumer

College students are not the healthiest segment of the population. Based on a study by Freedman and Connors (2010), 25% of college students are obese, few meet dietary guidelines for Americans, and many are developing dietary habits that influence later health risks. More than one-third of U.S. adults (35.7%) are obese (CDC, 2012). Because of this, it is important to determine how information provided to college students' influences their purchasing habits. College students living arrangements have been reported to influence food choices, nutrient intakes, and physical activity patterns. Financial problems and access to foods are other factors that influence student food consumption (Brevard & Ricketts, 1996; Driskell, Kim, & Goebel, 2005).

Davy, Benes, and Driskell (2006) identified factors that influence students' selection of food. These factors include shortage of time, taste, health, physical and social environment, and weight control. Levi, Chan, and Pence's (2006) study found respondents rated the importance of cost, convenience, healthfulness, mood, food quality, food appearance, taste, label information, and being organic relative to what they ate as factors that influenced their food choices. Driskell, Kim, and Goebel's (2005) study found convenience, taste, cost, health, weight control, and family/friends are the main factors that influence food choices. Female respondents considered healthiness, mood, quality, appearance, taste, and label information to be of significantly greater importance than did their male counterparts. Both sexes perceived cost as equally as important. Organic content was perceived as the least important decision factor by their college age sample (Driskell, Kim, & Goebel, 2005).

According to Davy, Benes, and Driskell (2006), by gender, women tend to purchase food with the desire to lose weight while men want to gain weight. In a study of 105 male and 181 female undergraduate students at a large Midwestern university, Davy, Benes, and Driskell (2006) found that a significantly larger percentage of men obtained most of their nutrition knowledge from family members (58.0% vs. 40.0%) and magazines/newspapers (43.1% vs. 30.5%). The study also identified where students found their information. Seventy-two percent of college students in the study used television the most to find information about nutrition (Davy, Benes, & Driskell, 2006). This was followed by in descending order of use of magazines, newspapers, family and friends, and the Internet as the last source for information.

Levi, Chan, and Pence's (2006) study found food decisions to be of greater personal importance and relevance to female students than to their male counterparts. They also found that female and male students have different levels of involvement in their food decisions. Overall, their level of interest in thinking about deciding how much or what to eat is best expressed by social and cultural expectations (Levi, Chan, & Pence, 2006). A collection of studies found that female students were nearly three times as likely than men to be "restrained eaters". A content analysis of magazines most commonly read by young men and women showed that those publications aimed at girls and young women contained nearly eleven times more articles related to dieting and weight than did men's magazines (Anderson & DiDomienico, 1992; Levi, Chan, & Pence, 2006).

Past research found sensory appeal, healthiness, convenience, and price to be the top factors influencing food choice (Scheibehenne, Miesler, & Todd, 2007; Steptoe, Pollard, & Wardle, 1995; Tobler, Visschers, & Siegrist, 2011; Van Birgelen, Semijn, & Keicher, 2009). Eco-friendliness did not have an impact on food choice (Scheibehenne, Miesler, & Todd, 2007; Steptoe, Pollard, & Wardle, 1995; Tobler, Visschers, & Siegrist, 2011; Van Birgelen, Semijn, & Keicher, 2009). These studies did not include social influences as factors. Overall, the factors that influence students' perceptions of food effect their purchasing decisions.

#### Formation of consumer attitudes

It is important to understand how young adults form attitudes towards products and develop brand loyalty. Ward, Wackman, and Wartella (1977) found that parents

influence their children's "consumer socialization" in three ways: acting as models, directly interacting with their children in a variety of consumption related contexts, or by providing children with independent opportunities for purchasing. Learning by observation, communication, and experience are other ways that underlie the parental influence (Ward, et al., 1977).

Moore-Shay and Lutz (1988) said research indicates parents influence their children in economic-management skills, buying styles, and brand and product preferences. Their study of 49 college females and their mothers showed that 46% of mothers accurately predicted their daughter's preferences when selecting high-visibility brands while grocery shopping.

Two studies from Thogerson and Olander (2006) found that the effect of personal norms on organic food purchases was stronger than the effect of subjective (social) norm (Aertsens, et al., 2009). Bartels and Reinders (2010) cited Stewart and Lacassagne(2005) acknowledging that social representations refer to "what people think or believe they know concerning social objects or situations." On the other hand, people's personal norms result from that individual's values. However, Thogerson and Olander (2006) also found "nonmotivational reasons are to be found both within the individual (e.g., task knowledge achieved by previous experience that enables an individual to repeat the behavior in a consistent fashion) and in the external environment that must support the repeated performance of the behavior (p. 1760)." Thogerson and Olander's (2006) study found truth in both claims and that one can get a deeper understanding of the attitude-behavior relationship in the environmental field by

analyzing the dynamic interaction over time between relevant attitudinal variables (beliefs and norms in this case) and specific behaviors of interest. This shows that the effect of personal norms and social norms can come from habits and outside factors. These habits may affect students' food purchase behavior.

#### Celebrity influence among adolescents and young adults

By popular definition, a celebrity can be an actor, musician, professional athlete, television star, or politician. According to Fraser and Brown (2002, p.185), "a celebrity is someone who is simply known and may or may not serve others sacrificially." They can earn name recognition by their talent, appearances, or in some case, lack of talent and integrity. Within the past decade, celebrities have been able to reach a broad audience through personal Facebook pages and Twitter.

Celebrities can reach a broad audience through news programs, late- night talk shows, movies, concerts, and sporting events, whereas the average American is limited in who he/she can converse with (Morin, Ivory & Tubbs, 2012). Advertisers often hope celebrities persuade consumers to make a purchase and positively influence consumer attitudes towards a product (Morin, Ivory & Tubbs, 2012). Studies show celebrity endorsements influence consumer attitudes, voter perceptions, and behavior intentions (Agrawal & Kamakura, 1995; Atkin & Block, 1983; Austin et al., 2008; Ferle & Choi, 2005; Jackson, 2009; Mittelstaedt et al., 2000).

There are two opposing opinions as to what extent celebrities influence consumerism. Agrawal and Kamakura (1995, p. 56) believed "celebrities make advertisements believable, enhance message recall, aid in the recognition of brand

names, create positive attitudes towards the brand, and create a distinct personality for the endorsed brand. However, Goldsmith and colleagues (2000) found that celebrity endorsements do not necessarily affect the consumer's attitude towards the brand (Morin, Ivory & Tubbs, 2012).

Using the meaning transfer theory, McCracken (1989) explains how celebrity characteristics are transferred to the product. Product meaning and credibility are transferred to the consumer whose view is shaped by the celebrity because of the consumer's fostered relationship with that celebrity. This theory disagrees with Goldsmith and colleague's (2000) study that found celebrity endorsements do not necessarily affect the consumer's attitude towards the brand (Morin, Ivory & Tubbs, 2012).

From a food perspective, it is common to hear celebrities discuss their diets. The option of organic food is something that is commonly touted among celebrities (US Weekly, 2013). In the January 21, 2013 issue of US Weekly, there is a photo of Jessica Alba, actress and founder of The Honest Company, wearing a bikini. In text she is quoted "I stick to mostly organic foods." A website called "Foodista" lists six female celebrities who promote an organic lifestyle (Nazarali, 2012). Most famous actors and actresses are subjectively considered beautiful and have beautiful bodies. Is it that farfetched to believe that if they follow a specific diet, their body is attainable for the average person? This questions goes hand in hand with the theory that people relate to celebrities because they share certain values, which may influence their perceptions of food.

## College students source of news

The Internet provides college students with news in seconds. Any student has access to complete text of daily newspapers prepared by professional journalists and editors worldwide, in addition to unfiltered news items delivered by search engines (Diddi & Larose, 2006). Smart phones and access to computers make it easy for students to access information. Diddi and Larose (2006) argued that among college students, the Internet is a “woven fabric” in their daily lives using the Web for news and entertainment. Parker and Plank (2000) found that college students relied very heavily on the Internet as an information source. Metzger, Flanagin, and Zwarun (2003) suggest that college students used the web for both academic and general information, including entertainment and news.

College students are fortunate to be in an environment where information can be at their fingertips in seconds. Now more than ever, people can choose from a variety of sources where they find their information. Mainstream media frequently report information on nutrition (Levi, Chan, & Pence, 2006). College students translate nutrition knowledge into food choices (Petty & Cacioppo, 1996). This concept is based on Petty and Cacioppo’s (1996) idea that changes in one’s beliefs lead to changes in one’s attitude and behavior. This also relates to Thogerson and Olander’s (2006) study, which found environmental factors influences people’s norms and behaviors.

## Nutrition labeling and college students

College students represent an appropriate portion of the US population because what they do now in terms of healthy eating will affect their health and behavior in the

future (Marietta, Welshimer, & Long, 1999). According to the Marietta, Welsheimer, and Long study, college students either strongly agreed or agreed that printed food labels were useful tools.

Most students (72.1%) responded that they would purchase, at least sometimes, a product with a health claim on the label rather than a similar product with no health claim (Marietta, et al., 1999). Yang and Chiou (2010) suggest that food labels influence students decisions to purchase healthier foods. Nutrition labeling schemes at point-of-choice are environmental strategies that increase opportunities for behavior change. They provide consumers with information to guide them towards healthier food choices (Holdsworth & Haslam, 1998). However, nutrition labeling cannot compete aesthetically with the graphics- intensive, eye- catching commercial food promotions while shopping for food (Buscher, Martin, & Crocker, 2001). Levi, Chan, and Pence's (2006) study found that the cultural coding of high involvement in food decisions as feminine actively discourages men from being highly involved in accessing and acting on nutritional information, such as reading product labels and recognizing their meaning.

For college students, it is hard to bypass pictures and signs of juicy burgers, chips, and other foods not as healthy as a bag of lettuce. Buscher, Martin, and Crocker (2001) found that students nutrition labeling serves more as a reminder than a pressure to purchase healthy foods. If convinced to purchase and consume a particular food, they may be more likely to incorporate it into their diet on a regular basis. A study by Conklin, Lambert, and Cranage (2005) found that two-thirds of their respondents reported they were more aware of nutrition labels posted in their dining hall and one-



third used them to guide their food choices. Levi, Chan, and Pence's (2006) study found female subjects pay more attention to their food choices that promote a healthy lifestyle through nutrition information.

### Purpose of Study

The purpose of this study is to identify college students' perceptions of food, food information sources, and what influences these perceptions.

### Objectives

Four research objectives guided this study:

- 1.1 Identify factors that influence students' perceptions of food
- 1.2 Identify the sources of information used to find information about food
- 1.3 Identify food attributes
- 1.4 Identify demographics that influence willingness to pay for food

### Methods

The population of this study is all U4 students at Texas A&M University. The purposive sample of this study included all U4 (N= 1,400) classified students in the departments of political science, animal science, biology, and agricultural leadership, education, and communication at Texas A&M University. The participants for the survey were selected to include students' who are about to leave the university setting within two to three years. Students in these departments of study were selected because

of their hard and social science affiliation. Animal science and biology were characterized as “hard” sciences. Political science and agricultural leadership, education, and communication were characterized as social sciences. These students were selected to gain an understanding of how much the media affects their purchasing decision when it comes to food and organic food. The survey was sent to all students with these qualifications through the use of TAMU bulk email.

The research instrument measured students’ perceptions of food using a five-point Likert-type scale (Objective 1.1). Students answered *strongly disagree*, *disagree*, *agree*, *strongly agree*, or *neither agree nor disagree* with twelve questions about influential factors. Students also identified the sources of information they used to find information about food and how trustworthy they perceived those sources of information (Objective 1.2). They ranked *government internet*, *social media*, *blogs*, *magazines and newspapers*, *television*, and *radio* in order from most trustworthy to least trustworthy. Students were asked to rank the importance of food attributes (Objective 1.3). The scale of 1 (most important) to 6 (least important) was used to rank the attributes. The attributes used in the study were *appearance*, *availability*, *country of origin*, *package information*, *price*, and *taste*. Finally, the survey measured factors that influenced students’ food purchases (Objective 1.4).

Student’s demographic information (year of graduation, major, gender, race, knowledge of organic food availability, healthiness of lifestyle, and political affiliation) was collected with the survey instrument.

The survey was pilot tested using students (n=31) enrolled in a Summer 2012 agricultural communications and journalism class. The students who completed this survey ranged from U2 to U4 classification. For the question about students' perceptions of food, results yielded a reliability of  $\alpha = .79$ . For the question about students' perceptions of organic food, results yielded a reliability of  $\alpha = .87$ .

The final survey instrument was adjusted based on student recommendations from the pilot test. Therefore, questions that were difficult to understand were reworded. The survey was distributed to students through the use of TAMU bulkmail. The survey was sent out two times, once every two weeks for four weeks, following the recommendations of Dillman's Tailored Design Method (Dillman, 2006). The survey took a maximum of 10 minutes for participants to complete. The participants were able to take the survey via a computer or their cell phone with Internet connection. All respondents were ensured that their responses would be anonymous. Post-hoc reliability yielded  $\alpha = .82$ .

The data collected was exported into IBM's Statistical Package for the Social Science (SPSS), version 20.0, for data analyses. Descriptive statistics (mean, standard deviation, and frequencies) were used to analyze the data for all for objectives. Frequencies were used in Objective 1. Pearson correlations were used for Objective 2, Objective 3, and Objective 4. Kendall's Tau was used in Objective 4. A Post Hoc test was used to determine whether or not people's opinions of food or organic food carried more weight.

## Results

The survey was administered to 1,400 students, of which 648 responded. However, 70 students did not provide usable data, therefore the final number of responses ( $n=578$ ). This gives a response rate of 40% for the variable of interest on perceptions of food. According to other studies, this is a typical response rate of college students completing Web-based surveys (Carini, Hayek, Kuh, Kennedy, & Ouimet, 2003; Jans & Roman, 2007). Daly, Jones, Gereau, and Levy (2011) found non-respondents could be the result of incorrect emails. Those who chose not to respond were deleted from the data because there was a usable amount of data provided by the subjects. There were no email addresses available to follow up with non-respondents because of the use of bulkmailing. The 40% response rate was met which is why there was no comparison to early and late responders and is only applicable to the respondents of this study.

The students were fairly knowledgeable about the food demographics. The results indicated students knew the meaning USDA (99.1%), the correct definition of organic (73.7%), identified the USDA logo (69.2%). Eighty-nine percent of students were irregular purchasers of organic food and 76.6% said they lived a healthy lifestyle. Of the 578 participants, 27.5% were men and 72.3% were women. Table 2.1 shows the demographics of the sample.

Table 2.1

<i>Demographics (n = 578)</i>		
	<i>n</i>	<i>Percent</i>
<i>Major</i>		
Animal Science	191	33.2
Biology	165	28.6
Agricultural Leadership	134	23.2
Political Science	86	14.9
<i>Political Ideology</i>		
Conservative	301	52.1
Moderate	158	27.4
Liberal	64	11.1
I don't know.	53	9.2
<i>Knowledge of Availability of Organic Food</i>		
Produce	570	98.6
Dairy	531	91.9
Meat	482	83.4
Grain Products	479	82.9
Snacks	232	40.1
Beverages	226	39.1
Candy	70	12.1
<i>Healthy Practices</i>		
Don't use tobacco	485	83.9
Exercise 2-3 times per week	424	73.4
Eat a healthy diet	406	70.2
Average 7-8 hours of sleep per night	387	67.0
Drink alcohol in moderation	325	56.2
Don't drink alcohol	208	36.0
<i>Race</i>		
White	412	71.3
Hispanic	104	18.0
Asian Pacific	32	5.5
Other	15	2.6
African American	12	2.1
American Indian	1	0.2

## Objective 2.1

The first objective identified student's opinions about food. Table 2.2 shows the means and standard deviations for the twelve food statements related to the students' attitudes about factors that influence their decision to purchase food. Of the twelve sub-questions about students' perceptions of food, "Brands of food do not influence my perceptions of food", "Prices of food do not influence my perceptions of food", and "My friends do not influence my decisions to purchase food" were reverse coded using SPSS to give better reliability. The respondents agreed that labels on food influence their perception of food ( $M=2.95$ ,  $SD= .71$ ) and that their families influenced them to purchase food ( $M=2.93$ ,  $SD= .78$ ). The students agreed the brands of food do not influence their perception of food ( $M=2.70$ ,  $SD= .74$ ). The students also agreed that food advertisements positively influenced their decision to purchase food ( $M=2.65$ ,  $SD= .86$ ) and agreed that their friends do not influence their decisions to purchase food ( $M=2.53$ ,  $SD= .85$ ).

Table 2.2

*Students' Perceptions of Food (N=267)*

Statement	Mean	SD
Labels on food influence my perceptions of food.	2.95	.71
My family influences me to purchase food.	2.93	.78
Brands of food products do not influence my perceptions of food.	2.70	.74
Food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) positively influence me to purchase food.	2.65	.86
My friends do not influence me to buy food.	2.53	.85
I view politicians' (local and national) perceptions of food as positive.	2.34	.84
The Internet influences me to purchase food.	2.30	.83
I view celebrities' (musicians, actors, artists, athletes) perceptions of non-organic food as positive.	2.17	.84
I view celebrities' (musicians, actors, writers, athletes) perceptions of non- organic food as positive.	2.16	.85
Celebrities' (musicians, actors, writers, athletes) influence me to purchase food.	1.88	.83
Politicians influence me to purchase non-organic food.	1.71	.73
Prices of food do not influence my perception of food.	1.65	.72
Politicians influence me to purchase food.	1.65	.69

*Note.* LIKERT- type scale 1.00-1.49= Strongly Agree, 1.50-2.49= Disagree, 2.50-3.49= Agree, 3.50-4.00= Strongly Agree

## Objective 2.2

The second objective of the study was to rank sources of information by trustworthiness. The students ranked six media formats: government internet, social media, blogs, magazines and newspapers, television, and radio. To determine the weighted ranking, rank for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1. This gave the weighted ranks and sums in each column. Table 2.3a shows the final column summed weighted rankings. The students ranked government Internet as the most trustworthy ( $\Sigma=3078$ ) and magazines and newspapers as least trustworthy ( $\Sigma=1386$ ). Radio was the second most trustworthy ( $\Sigma=2251$ ), followed by television ( $\Sigma=1902$ ) in third, and social media ( $\Sigma=1860$ ) in fourth. The students found blogs ( $\Sigma=1577$ ) as the fifth trustworthy source of information. The students were asked to rank the same six sources of information used to find information about food.



To get the weighted ranking, students sums for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. To determine the weighted ranking, rank for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1. This gave the weighted ranks and sums in each column. Table 2.3b shows the final column summed weighted rankings. The students ranked government Internet ( $\Sigma=2529$ ) as the most used to find information about food. Social media ( $\Sigma=1987$ ) ranked second most used to find out information about food followed by radio ( $\Sigma=1944$ ). The students ranked blogs ( $\Sigma=1875$ ) fourth and television ( $\Sigma=1870$ ) fifth to find information about food. The students ranked magazines and newspapers ( $\Sigma=1744$ ) as the sixth source of information to find information about food.

Table 2.3a

<i>Weighted Ranking of Source of Information Trustworthiness (n= 578)</i>														
	Trust						Weighted rank						Sum	Summed rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Government Internet	434	32	29	47	25	7	2604	160	116	141	50	7	3078	1
Radio	33	225	172	24	48	72	198	1125	688	72	96	72	2251	2
Television	15	148	170	29	93	119	90	740	680	87	186	119	1902	3
Social Media	41	56	63	300	68	46	246	280	252	900	136	46	1860	4
Blogs	32	51	78	111	183	119	192	255	312	333	366	119	1577	5
Magazines & Newspapers	19	62	62	63	157	211	114	310	248	189	314	211	1386	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

Table 2.3b

<i>Weighted Ranking of Use of Sources of Information About Food (n= 578)</i>														
	Information						Weighted Rank						Sum	Summed Rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Government Internet	238	87	52	83	100	9	1428	435	208	249	200	9	2529	1
Social Media	63	88	87	189	112	30	378	440	348	567	224	30	1987	2
Radio	84	110	152	18	23	182	504	550	608	54	46	182	1944	3
Blogs	64	93	76	119	148	69	384	465	304	357	296	69	1875	4
Television	75	90	122	59	82	141	450	450	488	177	164	141	1870	5
Magazines & Newspapers	45	101	80	101	104	138	270	505	320	303	208	138	1744	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

### Objective 2.3

For Objective 2.4, the students ranked food attributes. A scale of 1 (most important) to 6 (least important) was used to rank the attributes. The attributes used in the study were *appearance*, *availability*, *country of origin*, *package information*, *price*, and *taste*. To get the weighted ranking, students sums for each attribute was multiplied by 1, 2, 3, 4, 5, and 6, respectively. To determine the weighted ranking, students sums for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1. This gave the weighted ranks and sums in each column. Table 3 shows the students ranked package information ( $\Sigma=2392$ ) as most important. The students ranked price ( $\Sigma=2159$ ) as second most important, country of origin ( $\Sigma=2047$ ), and taste ( $\Sigma=1980$ ) as fourth most important. The students ranked availability ( $\Sigma=1517$ ) as fifth most important and appearance ( $\Sigma=1213$ ) as least important.

Table 2.4

	<i>Weighted Ranking of Food Attributes (n= 578)</i>													
	Non-Organic Food						Weighted Rank						SUM	Summed Rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Package Information	124	190	39	80	31	50	744	1140	156	240	62	50	2392	1
Price	50	125	138	170	16	15	300	750	552	510	32	15	2159	2
Country of Origin	162	92	24	63	65	108	972	552	96	189	130	108	2047	3
Taste	22	42	284	142	10	14	132	252	1136	426	20	14	1980	4
Availability	108	45	20	34	110	197	648	270	80	102	220	197	1517	5
Appearance	48	20	9	25	282	130	288	120	36	75	564	130	1213	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

## Objective 2.4

For Objective 1.4, a strong correlation was found between students' major and their willingness to pay a premium for organic food using Kendall's tau b- test. Pairing with students' perceptions of food and their willingness to pay a price premium for organic food, a statistically significant correlation was found at the 0.05 significance level between students majoring in agricultural leadership and their willingness to pay a price premium ( $\alpha=-.434$ ). In addition, a statistically significant correlation was found at the 0.05 significance level between students majoring in animal science and their willingness to pay a price premium ( $\alpha=-.296$ ).

## Conclusions and Implications

The majority of this particular group disagreed to most statements regarding the influence of their purchase of food. Students agreed that labels influence their opinion of food ( $M=2.95$ ,  $SD= .71$ ), supporting previous research that labels do influence students' decisions to purchase food. This further emphasizes the importance of labeling. The Packer (2002) reported that 87% of US respondents identified taste as the primary factor considered when purchasing fresh produce. Even though this study did not focus on produce specifically, it also found that package information as the most important factor when ranking food attributes. Also, the study found that family does influence students' decision to purchase food ( $M=2.93$ ,  $SD= .78$ ). Moore-Shay and Lutz (1988) found that 46% of mothers accurately predicted their daughters' preferences when selecting high-

visibility brands while grocery shopping. In this study, families had a significant influence on students' decisions to purchase food.

Dahm, Samonte, and Shows' (2009) study recorded 49% of students knew the correct definition of organic and 31.7% recognized the USDA organic seal. Students in this study are a more knowledgeable sample as 70.4% of students knew the correct definition of organic and 67% correctly recognized the USDA organic seal. Of the organic foods available, 87.1% of students in Dahm, Samonte, and Shows' (2009) study found produce as the highest recognized forms. This study also found produce (96%) as the highest recognized form. They also showed significant recognition of dairy (89.7%), grain products (80.7%), and meat (81.2%). Yiridoe et al. (2005) found that people did not purchase organic food because of lack of awareness. This study suggests that students are aware of organic options.

Students' overall attitudes of organic foods were different in this study when compared to Dahm, Samonte, and Shows (2009). Dahm, Samonte, and Shows (2009) found more than half of their students (56.4%) of students to have a neutral opinion about organic food. This study found 22.8% to have a neutral opinion about organic food. This correlates with the 86.6% of irregular organic food consumers.

Previous research found 72.1% of college students surveyed would purchase a product because of the health claim on the label (Marietta et al., 1999). This study found food advertisements do influence their decision to purchase organic food ( $M= 2.65$ ,  $SD=.86$ ). Since package information is a factor that influences students' decisions to purchase food, it would be advised to know what package attributes cause consumer to

purchase goods. Location of nutrition information, color of packaging, etc. could help marketers entice more consumers. They can also use packaging attributes and the placement of country of origin to entice consumers.

The students ranked government websites as most trustworthy and visited them the most often to find information about food. In 2006, 72% of college students in Davy, Benes, and Driskell's (2006) study used television as an information source for food nutrition. This study found students ranking televisions fifth when finding information about food and the third trustworthy source of information. In less than ten years, the Internet has become a highly used source of information. Social media sites can be held responsible for the decline in television, radio, magazines and newspapers are sources of information.

Futures studies should dig deeper into examples of each media category—what government internet sources? What magazines are students reading? What social media sites are they using? On the basis of students' perceptions of food, those students in the departments of animal science ( $\alpha=-.296$ ) and agricultural leadership, education, and communication ( $\alpha=-.434$ ) were not willing to pay a price premium for organic produce. Both of these departments are agriculture-based where students have a closer relationship to food production.

It is recommended for this study to be replicated using other college students at different universities. For example, the demographics of students at New York University in New York City most likely have different demographics, opinions, and point of views on food than students in College Station, Texas. This replication should

occur to determine if there are other factors that influence students' perceptions of food. Replicating Dahm and Shows (2009) and Beaudreault (2009) in other geographical locations around the United States could identify more factors among different students.

A qualitative study could also be conducted to get students' personal opinions as to why they choose to purchase food. It would be interesting to get personal accounts of students selecting products at point of sale to see whether marketing promotions, celebrities, family, cost, and other factors that are driving them to make those purchasing decisions.

If students are easily influenced by non-reliable sources like celebrities, marketing companies can take advantage of signing celebrity endorsements to promote products. They can also use packaging attributes and the placement of country of origin to entice consumers.

The survey model used in this study can be replicated to know what sources students' use most often and how trustworthy they perceive those sources for topics other than food. Politics, education, consumer information, and other topics could easily be substituted for researchers to find out more information about a demographic.



### 3. COLLEGE STUDENTS' PERCEPTIONS OF ORGANIC FOOD

Over the past decade, the nation's and media's interest has grown toward sustaining the Earth's resources and finding ways for Americans to act greener. Earth Day 1990 put an emphasis on individual responsibility for personal health and encouraged people to make informed consumer choices (Yiridoe, Bonti-Ankomah, & Martin, 2005). A word commonly affiliated with 'sustainability' and 'green' is organic. Because of the 'green movement', organic farming in the United States is growing at a rate of 12% annually and is receiving more government aid (McDonald, 2000).

When organic food received the stamp of approval from the United States Department of Agriculture (USDA) in 1997, it created a specialty market. In 2006, Wal-Mart provided the average consumer with access to organic food without going to a specialty store (New York Times, 2006; Yiridoe et al., 2005). Today, there are numerous mainstream grocery stores sell organic goods as well as a rising numbers of specialty organic stores like Whole Foods and Central Market. According to McEachern and Mcclean (2002), 'ethical' and 'green' consumers are responsible for the sustained growth of organic markets because they are constantly seeking product or company information.

Trade organizations and publishing companies specifically target green groups to promote organic food as well as influence mainstream markets because it is popular in today's economy. These consumers attempt to integrate a variety of environmental and or societal influences into their buying behavior. If these consumers are spreading their

beliefs about organic products, then who is to say that someone who listens to why they should purchase organic is not going to purchase organic too? This is not stating that organic is a bad thing or consumers should purchase one way or another, it is stating that they should think for themselves.

Increased awareness, changing societal values, rising media interest, escalating costs of environmental mishaps, and scientific evidence, could cause consumers to purchase more organic products. If consumers are to make informed decisions about what they eat, clear and trustworthy information from producers, manufacturers, retailers, and government organizations must be easily accessible (McEachern & Mcclean, 2002). Agenda setting and framing organic foods to portray a bias perspective contribute to the rise in sales of organic foods (Beaudreault, 2009). The combination of awareness, agenda setting, media interest, and changing societal values contribute to the problem of consumers searching the Internet and most likely relying upon non-credible sources for their information because of the rise in public awareness. In turn, people may rely on journalists, celebrities, television shows, and other sources of media to give them information about organic fruits and vegetables because it is convenient.

It is important to note studies have shown that people purchase organic produce because they think that it is better for their health and more nutritious. However, there is no conclusive evidence that organic food is more nutritious (Williams, 2002). From a researcher's perspective, studies that have shown that organic food is not more nutritious is the most important deciding factor as to whether or not a consumer is educated on organic (Williams, 2002).

## Conceptual Framework

Overwhelming amounts of news has given consumers opportunities to make informed choices and decisions about organic food and practices without checking the reliability of their sources. Before the Internet boom, current news and information was found in newspapers and on television. Now, news is accessible twenty-four-seven via news channels, cable news, the Internet, Facebook, Twitter, and other various outlets. According to New York Times article, Internet usage from 2005 to 2010 has increased 121 percent (Brustein, 2010). Unfortunately, those who deliver the news-- whether they are a bloggers, news broadcasters, or journalists, are even more disconnected from agriculture today than ever before. From an agricultural standpoint, a 2002 study on gate keeping decisions and the Arkansas daily newspaper editors in publishing agricultural news revealed editors' decisions to print agricultural news was the interest of the story to the local community. By studying the demographics of the editors and their educational backgrounds, 76% had never taken a course in agriculture (Cartmell II et al., 2000). Technology could be a reason increased efficiency therefore fewer people are working on the farm, thus widening the gap between agriculture and society.

Social behavior is important to understand when looking at people's actions. Based on Jager's 2000 model of consumer behavior, people frequently follow social norms not only because they fear social pressure, but because they [social behaviors] give information about what behavior is most appropriate or beneficial (Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009). Two studies from Thogerson and Olander (2006) found that the effect of personal norms on organic food purchases was

stronger than the effect of subjective (social) norm (Aertsens, et al., 2009). Bartels and Reinders (2010) cited Stewart and Lacassagne(2005) acknowledging that social representations refer to “what people think or believe they know concerning social objects or situations.” On the other hand, people’s personal norms result from that individual’s values. However, Thogerson and Olander (2006) also found “nonmotivational reasons are to be found both within the individual (e.g., task knowledge achieved by previous experience that enables an individual to repeat the behavior in a consistent fashion) and in the external environment that must support the repeated performance of the behavior (p. 1760).” Thogerson and Olander’s (2006) study found truth in both claims and that one can get a deeper understanding of the attitude–behavior relationship in the environmental field by analyzing the dynamic interaction over time between relevant attitudinal variables (beliefs and norms in this case) and specific behaviors of interest. This shows that the effect of personal norms and social norms can come from habits and outside factors.

According to a study in the *Journal of Adolescent and Adult Literacy*, 95% of college students use the Internet every day (Mokhtari, Reichard, & Gardner, 2009). College students are thought to make decisions based on personal experiences, what they learned in college, and information presented to them by the media. Since the majority of college students become independent after graduation, their social responsibility is now on their shoulders.

Popular magazines promote organic food without giving the proper definitions and credibility that consumers need in order to be properly informed. This study will

strive to identify the degree to which the media influences college students' decisions to purchase organic produce.

#### The organic consumer

In a recent article from the Organic Newsroom, 78% of 1,300 families surveyed say they are choosing organic foods, according to a study published by the Organic Trade Association (Haumann, 2011). Of those 78%, 48% of parents surveyed said that they are for me and my children.” Most buyers of organic foods tend to be women because they are usually the primary grocery shoppers in the household and tend to be more informed about nutrition and food safety than men (Yiridoe, et al., 2005). On the other hand, Wandel and Bugge (1997) found that men were more willing to pay a higher price premium for organic products than were women. Consumers of organic produce appreciate the quality of the organic food and perceived them to be better in taste, quality, health, and nutritive value (Hay, 1989).

Onyango, Hallman, and Bellows (2007) found those with a college degree were more likely to purchase organic foods on a regular basis and that women were eight percent more likely to purchase than were men. The study also found that young people were seven percent more likely to purchase organic than were middle-aged respondents.

McEachern and McClean (2002) categorized organic consumers into two stereotypes: “super informed” and “ignorant.” “Super informed” consumers tend to be those who purchase organic products because it defines their lifestyle. They were also referred to as regular consumers of organic foods (RCOFs) (Hughner et al., 2007).

'Ignorant' consumers tend to be easily persuaded because they were simply unaware of the reasons why they purchased organic products (McEachern & McClean, 2002).

Organic consumer's motives for purchasing

Existing organic consumers' preferences for organically grown foods tends to be influenced more by product quality and other product characteristics, than by price premium (Yiridoe, et al., 2005). McEachern & McClean's (2002) study found that taste was identified as being the main motivation for respondents for respondents ages 18-25. The Packer (2002) reported that 87% of US respondents identified taste as the primary factor considered in the purchase of fresh produce.

Eighty-one percent of respondents also believed that food scares were the main reason why the organic market has grown (McEachern & McClean, 2002). Hill and Lynchehaun (2002) suggested that some people perceived organic food to be fashionable because of the considerable coverage it has received from the media combined with the high prices and marketing campaigns.

Yiridoe et al. (2005) found income has no influence on buyer's decision to purchase organic products over non-organic products. Since college seniors are about to become financially responsible, it is important to know their organic produce buying habits. However, Torjusen, Lieblein, Wandel, and Francis (2001) found that income significantly impacted consumers' decision to purchase or not to purchase organic produce. Conflicting studies provide the need to look for further study.

## Quality perception of organic produce

There is a perception that organically-grown products are more nutritious for consumers than their conventionally-grown competitors. However, the Mayo Clinic stated that there is no conclusive evidence that organic food is more nutritious than conventionally grown food (Mayo Clinic Staff, 2012). By USDA standards, the lack of pesticides lead to people believing that organic food has more desirable characteristics than conventionally produced food. These characteristics include nutritive value, economic value, freshness, flavor or taste, ripeness, and general appearance (Yiridoe, et al., 2005).

## Attitudes and behaviors of college students toward organic produce

An interest in organic foods or alternative food choices is evident in college-age individuals who show an increasing enthusiasm for a healthy lifestyle (The National Organic Program, 2007). In a study on college students perceptions of organic food, Dahm, Samonte, and Shows (2009) surveyed 443 college students enrolled in an entry-level political science classes at a southeastern university about their perceptions of organic food. Forty-nine percent of students correctly identified the correct definition of the term “organic” and 31.7% recognized the USDA organic seal. Of the forms of organic foods available for purchase, produce was the highest recognized form (87.1%). More than half (56.4%) of the students were neutral about their opinion of organic foods. The study found a positive relationship between the knowledge of organic foods and the definition of the term organic. Recognition of the organic seal and opinion about the

taste of organic food compared to conventionally-grown produce also showed a significant positive relationship.

In terms of gender, Dahm, Samonte, and Shows (2009) found that an equal number of males and females knew the correct definition of the term organic, recognized the USDA seal, and expressed a positive attitude towards organic foods. Most previous studies showed that either solely women or solely men showed positive attitudes and behaviors towards organic food.

#### Formation of consumer attitudes

It is important to understand how young adults form attitudes towards products and develop brand loyalty. Ward, Wackman, and Wartella (1977) found that parents influence their children's "consumer socialization" in three ways: acting as models, directly interacting with their children in a variety of consumption related contexts, or by providing children with independent opportunities for purchasing. Learning by observation, communication, and experience are other ways that underlie the parental influence (Ward, et al., 1977).

Moore-Shay and Lutz (1988) said research indicates parents influence their children in economic-management skills, buying styles, and brand and product preferences. Their study of 49 college females and their mothers showed that 46% of mothers accurately predicted their daughter's preferences when selecting high-visibility brands while grocery shopping.

Two studies from Thogerson and Olander (2006) found that the effect of personal norms on organic food purchases was stronger than the effect of subjective



(social) norm (Aertsens, et al., 2009). Bartels and Reinders (2010) cited Stewart and Lacassagne(2005) acknowledging that social representations refer to “what people think or believe they know concerning social objects or situations.” On the other hand, people’s personal norms result from that individual’s values. However, Thogerson and Olander (2006) also found “nonmotivational reasons are to be found both within the individual (e.g., task knowledge achieved by previous experience that enables an individual to repeat the behavior in a consistent fashion) and in the external environment that must support the repeated performance of the behavior (p. 1760).” Thogerson and Olander’s (2006) study found truth in both claims and that one can get a deeper understanding of the attitude–behavior relationship in the environmental field by analyzing the dynamic interaction over time between relevant attitudinal variables (beliefs and norms in this case) and specific behaviors of interest. This shows that the effect of personal norms and social norms can come from habits and outside factors.

#### Nutrition labeling and college students

College students represent an appropriate portion of different demographics of the US population because o the current behaviors of healthy eating will affect their health and behavior in the future (Marietta, Welshimer, & Long, 1999). According to the Marietta, Welsheimer, and Long study, college students either strongly agreed or agreed that printed food labels were useful tools. Most students (72.1%) responded that they would purchase, at least sometimes, a product with a health claim on the label rather than a similar product with no health claim (Marietta, et al., 1999). This information is important to the study because organically grown produce uses the “USDA Organic”

sticker on all of its products. Grocery stores market their organic produce sections and if consumers perceive the label to mean healthier food, then labeling could be a factor contributing to students' decisions to purchase organic produce. Therefore, if students do not recognize the label, they are not making responsible, informed decisions.

The Organic Trade Association reported that 72% of parents are familiar with the USDA Organic seal and that 30% of U.S. families are new entrants to the organic marketplace (Haumann, 2011). Parents want to do what is best for their children and keep them healthy. Even though there is no scientific evidence that USDA organic is more healthy, consumers trust the label because it is government certified. This information raises the question of to what extent the influence of extraneous variables, like friends and family, influence the decision to purchase organic produce.

#### Willingness to pay

Consumers tend to be willing to pay higher price premiums for organic products with shorter shelf life, such as fruits and vegetables, compared to products like cereal (Yiridoe, et al., 2005). Aertsens et.al. (2009) found that a price premium is a barrier to individual's decision to purchase a more environmentally friendly product. Consumer income was significantly associated with the decision to purchase organic foods (Torjusen, et al., 2001). This is important to this study because college students rely on their own income or outside income, which can both have a serious impact on their decision to purchase organic or conventionally-grown produce. There is a widespread perception that organic foods are expensive and the primary barrier to purchasing organic food was the consumer's level of personal income (Davies, Titterington, &

Cochrane, 1995). Students' perceptions and attitudes towards organic may have an effect on their purchasing decisions.

#### Knowledge of organic food

The most important reason why US customers do not purchase organic food was because of a lack of knowledge or awareness (Yiridoe, et al., 2005). Fifty-nine percent of those who did not purchase organic products indicated they never really considered organic, while 39% indicated that price was the main inhibiting factor. Sixteen percent also indicated limited availability of organic products contributed to their lack of purchase (Yiridoe, et al., 2005). However, universities in the United States have responded to students' increased awareness in the environment by adding organic foods to their menus (Dahm, Samonte, & Shows, 2009).

#### Purpose of Study

The purpose of this study is to identify students' perceptions of organic food and to what extent the media influences these perceptions.

#### Objectives

Four research objectives guided this study:

- 2.1 Identify students' perceptions of organic food
- 2.2 Identify the sources of information about organic food
- 2.3 Identify organic food attributes
- 2.4 Identify the factors that influence organic food purchases

## Methods

The population of this study included all U4 (N= 1,400) classified students in political science, animal science, biology, and agricultural leadership, education, and communication departments at Texas A&M University. The participants for the survey were selected to include students' who are about to leave the university setting within 2-3 years. Students majoring in these areas of study were selected because of their hard and social science affiliation. Animal science and biology were characterized as "hard" sciences. Political science and agricultural leadership, education, and communication were characterized as social sciences. These students were selected to gain an understanding of how much the media affects their purchasing decision when it comes to organic food. The survey was sent to all students with these qualifications through the use of TAMU bulk email.

The research instrument measured students' perceptions of organic food using a five-point Likert-type scale (Objective 2.1). Students answered *strongly disagree*, *disagree*, *agree*, *strongly agree*, or *neither agree nor disagree* with twelve questions about influential factors. Students also identified the sources of information they used to find information about food and how trustworthy they perceived those sources of information (Objective 2.2). They ranked *government internet*, *social media*, *blogs*, *magazines and newspapers*, *television*, and *radio* in order from most trustworthy to least trustworthy. Students were asked to rank the importance of organic food attributes (Objective 2.3). The scale of 1 (most important) to 6 (least important) was used to rank the attributes. The attributes used in the study were *appearance*, *availability*, *country of*

*origin, package information, price, and taste.* Finally, the survey measured factors that influenced students' organic food purchases (Objective 2.4).

Student's demographic information (year of graduation, major, gender, race, knowledge of organic food availability, healthiness of lifestyle, and political affiliation) was collected with the survey instrument.

The survey was pilot tested using students (n=31) enrolled in a Summer 2012 agricultural communications and journalism class . The students who completed this survey ranged from U2 to U4 classification. For the question about students' perceptions of food, results yielded a reliability of  $\alpha = .79$ . For the question about students' perceptions of organic food, results yielded a reliability of  $\alpha = .87$ .

The final survey instrument was adjusted based on student recommendations from the pilot test. Therefore, questions that were difficult to understand were reworded. The survey was distributed to students through the use of TAMU bulkmail. The survey was sent out two times, once every two weeks for four weeks, following the recommendations of Dillman's *Tailored Design Method* (Dillman, 2006). The survey took a maximum of 10 minutes for participants to complete. The participants were able to take the survey via a computer or their cell phone with Internet connection. All respondents were ensured that their responses would be anonymous. Post-hoc reliability yielded  $\alpha=.82$ .

The data collected was exported into IBM's Statistical Package for the Social Science (SPSS), version 20.0, for data analyses. Descriptive statistics (mean, standard deviation, and frequencies) were used to analyze the data for all for objectives.

Frequencies were used in Objective 1. Pearson correlations were used for Objective 2, Objective 3, and Objective 4. Kendall's Tau was used in Objective 4. A Post Hoc test was used to determine whether or not people's opinions of food or organic food carried more weight.

## Results

The survey was administered to 1,400 students, of which 648 responded. However, 70 students did not provide usable data, therefore the final number of responses ( $n=578$ ). This gives a response rate of 40% for the variable of interest on perceptions of organic food. According to other studies, this is a typical response rate of college students completing Web-based surveys (Carini, Hayek, Kuh, Kennedy, & Ouimet, 2003; Jans & Roman, 2007). There were no email addresses available to follow up with non-respondents because of the use of bulkmailing. The 40% response rate was met which is why there was no comparison to early and late responders.

The students were fairly knowledgeable about the food demographics. The results indicated students knew the meaning USDA (99.1%), the correct definition of organic (73.7%), identified the USDA logo (69.2%). Eighty-nine percent of students were irregular purchasers of organic food and 76.6% said they lived a healthy lifestyle. Of the 578 participants, 27.5% were men and 72.3% were women. Table 3.1 shows the demographics of the sample.

Table 3.1

<i>Demographics (n = 578)</i>		
<i>Major</i>	<i>n</i>	<i>Percent</i>
Animal Science	191	33.2
Biology	165	28.6
Agricultural Leadership	134	23.2
Political Science	86	14.9
<i>Political Ideology</i>		
Conservative	301	52.1
Moderate	158	27.4
Liberal	64	11.1
I don't know.	53	9.2
<i>Knowledge of Availability of Organic Food</i>		
Produce	570	98.6
Dairy	531	91.9
Meat	482	83.4
Grain Products	479	82.9
Snacks	232	40.1
Beverages	226	39.1
Candy	70	12.1
<i>Healthy Practices</i>		
Don't use tobacco	485	83.9
Exercise 2-3 times per week	424	73.4
Eat a healthy diet	406	70.2
Average 7-8 hours of sleep per night	387	67.0
Drink alcohol in moderation	325	56.2
Don't drink alcohol	208	36.0
<i>Race</i>		
White	412	71.3
Hispanic	104	18.0
Asian Pacific	32	5.5
Other	15	2.6
African American	12	2.1
American Indian	1	0.2

### Objective 3.1

The first objective attempted to identify student's opinions about organic food. Table 3.2 shows the means and standard deviations for the twelve organic food statements related to the students' attitudes about factors that influence their decision to purchase organic food. Of the thirteen sub-questions about students' perceptions of food, "Brands of organic foods do not influence my perceptions of organic food", "Prices of organic food do not influence my perceptions of organic food", and "My friends do not influence my decisions to buy organic food" were reverse coded using SPSS to give better reliability. In regards to the thirteen organic food centered questions, the students agreed that celebrities influence their opinion of organic food ( $M=2.56$ ,  $SD= .99$ ). The students agreed that labels on organic food influence their perception of organic food ( $M=2.60$ ,  $SD= .82$ ).



Table 3.2

<i>Students' Perceptions of Organic Food (n= 203)</i>		
Statement	Mean	SD
Labels on organic foods influence my perception of organic food.	2.60	.82
I view celebrities' (musicians, actors, artists, athletes) perceptions of organic food as positive.	2.56	.99
Organic food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) positively influence me to purchase organic food.	2.41	.92
I view celebrities' (musicians, actors, artists, athletes) perceptions of non-organic food as positive.	2.31	.87
I view politicians' (local and national) perceptions of organic food as positive.	2.27	.88
Brands of organic food products do not influence my perception of organic foods.	2.06	.80
My family influences me to purchase organic food.	1.99	.91
The Internet influences me to purchase non-organic food.	1.92	.80
Prices of organic food do not influence my perception of organic food.	1.91	.95
My friends do not influence me to buy organic food.	1.85	.80
Celebrities' (musicians, actors, writers, athletes) influence me to purchase organic food.	1.79	.85
Politicians influence me to purchase organic food.	1.68	.74
Politicians influence me to purchase food.	1.64	.78

*Note.* LIKERT- type scale 1.00-1.49= Strongly Agree, 1.50-2.49= Disagree, 2.50-3.49= Agree, 3.50-4.00= Strongly Agree.

### Objective 3.2

The second objective of the study was to rank sources of information by trustworthiness. The students ranked six media formats: *government internet, social media, blogs, magazines and newspapers, television, and radio*. Using a multiplier to get the greatest weight, the #1 rank media format was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1. This gave the weighted ranks and sums in each column. The final column summed the weighted rankings. Table 3.3a shows the students ranked government internet as the most trustworthy ( $\Sigma=3078$ ) and magazines and newspapers as least trustworthy ( $\Sigma=1386$ ). Radio was the second most trustworthy ( $\Sigma=2251$ ), followed by television ( $\Sigma=1902$ ) in third, and social media ( $\Sigma=1860$ ) in fourth. The students found blogs ( $\Sigma=1577$ ) as the fifth trustworthy source of information.

The students were asked to rank the same six sources of information used to find information about food.

To get the weighted ranking, students sums for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. To determine the weighted ranking, ranks for each source of information was multiplied by 1, 2, 3, 4, 5, and 6, respectively. Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1. This gave the weighted ranks and sums in each column. The final column summed the weighted rankings. Table 3.3b shows the students ranked government Internet ( $\Sigma=2529$ ) as the most used to find information about food. Social media ( $\Sigma=1987$ ) ranked second most used to find out information about food followed by radio ( $\Sigma=1944$ ). The students ranked blogs ( $\Sigma=1875$ ) fourth and television ( $\Sigma=1870$ ) fifth to find information about food. The students ranked magazines and newspapers ( $\Sigma=1744$ ) as the sixth source of information to find information about food.

Table 3.3a

<i>Weighted Ranking of Source of Information Trustworthiness (n= 578)</i>														
	Trust						Weighted rank						Sum	Summed rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Government Internet	434	32	29	47	25	7	2604	160	116	141	50	7	3078	1
Radio	33	225	172	24	48	72	198	1125	688	72	96	72	2251	2
Television	15	148	170	29	93	119	90	740	680	87	186	119	1902	3
Social Media	41	56	63	300	68	46	246	280	252	900	136	46	1860	4
Blogs	32	51	78	111	183	119	192	255	312	333	366	119	1577	5
Magazines & Newspapers	19	62	62	63	157	211	114	310	248	189	314	211	1386	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

Table 3.3b

<i>Weighted Ranking of Use of Sources of Information About Food (n= 578)</i>														
	Information						Weighted Rank						Sum	Summed Rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Government Internet	238	87	52	83	100	9	1428	435	208	249	200	9	2529	1
Social Media	63	88	87	189	112	30	378	440	348	567	224	30	1987	2
Radio	84	110	152	18	23	182	504	550	608	54	46	182	1944	3
Blogs	64	93	76	119	148	69	384	465	304	357	296	69	1875	4
Television	75	90	122	59	82	141	450	450	488	177	164	141	1870	5
Magazines & Newspapers	45	101	80	101	104	138	270	505	320	303	208	138	1744	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

### Objective 3.3

For Objective 3.3, the students ranked organic food attributes. The scale of 1 (most important) to 6 (least important) was used to rank the attributes. The attributes used in the study were *appearance*, *availability*, *country of origin*, *package information*, *price*, and *taste*. To get the weighted ranking, students sums for each attribute was multiplied by 1, 2, 3, 4, 5, and 6, respectively. This gave the weighted ranks and sums in each column. Table 2.3 shows the students ranked package information ( $\Sigma=2339$ ) as most important. The students ranked country of origin ( $\Sigma=2123$ ) as second most important. The students ranked price ( $\Sigma=2117$ ) as third most important. The students ranked taste ( $\Sigma=2010$ ) as fourth most important. The students ranked availability ( $\Sigma=1489$ ) as fifth most important. The students ranked appearance ( $\Sigma=1252$ ) as least important.

Table 3.4

*Weighted Ranking of Organic Food Attributes (n= 578)*

	Organic Food						Weighted Rank						SUM	Summed rank
	1	2	3	4	5	6	1	2	3	4	5	6		
Package Information	115	174	57	88	32	49	690	1044	228	264	64	49	2339	1
Country of Origin	163	106	35	53	52	106	978	636	140	159	104	106	2123	2
Price	63	111	123	172	19	27	378	666	492	516	38	27	2117	3
Taste	28	53	266	142	8	18	168	318	1064	426	16	18	2010	4
Availability	97	51	21	38	95	213	582	306	84	114	190	213	1489	5
Appearance	49	20	13	22	309	102	294	120	52	66	618	102	1252	6

*Note.* Using a multiplier to get the greatest weight, the #1 rank was multiplied by 6, #2 rank by 5, #3 rank by 4, #4 rank by 3, #5 rank by 2, and #6 rank by 1.

#### Objective 3.4

For Objective 3.4, Pearson's 2-Tailed test found correlations among multiple questions. A statistically significant correlation was found at the 0.05 significance level between students' perception of organic food and their willingness to pay a price premium ( $\alpha=.192$ ).

#### Conclusions and Implications

The concerns about college students' willingness to purchase organic food without properly knowing the meaning of 'organic' prompted this study. As college seniors are about to become financially responsible, it is important to know if they will spend more money on the organic premium if it is their own money or their parents', scholarship, or other financial aid.

The majority of this particular group disagreed to most statements regarding the influence of their purchase of organic food. Students agreed that celebrities influence their opinion of organic food ( $M=2.56$ ,  $SD=.99$ ) suggests that celebrities do influence students' decisions to purchase organic food. Also, the study found that labels on organic food influence their perception of organic food ( $M=2.60$ ,  $SD=.82$ ). This further emphasizes the importance of labeling. The Packer (2002) reported that 87% of US respondents identified taste as the primary factor considered when purchasing fresh produce. Even though this study did not focus on produce specifically, it found that package information as the most important factor when ranking food attributes. Taste ranked fourth behind country of origin and price, respectively. Moore-Shay and Lutz (1988) found that 46% of mothers accurately predicted their daughters' preferences

when selecting high-visibility brands while grocery shopping. In this study, families had a significant influence on students' decisions to purchase food.

Of the organic food attributes, package information aligns with the importance of nutrition labeling. However, this study's third ranking of price conflicts with most studies which state price is one of the most important factor of purchasing organic food (Aertsens et al., 2009). To maximize this impact of this aspect of the study, questions that ask students about their spending habits would provide more information. Whether students had jobs, were on scholarship, or received money from their parents would provide more insight into their willingness to pay for certain items.

Dahm, Samonte, and Shows' (2009) study recorded 49% of students knew the correct definition of organic and 31.7% recognized the USDA organic seal. Students in this study were more knowledgeable with 73.7% of students identifying the correct definition of organic and 69.2% correctly recognized the USDA organic seal. Of the organic foods available, 87.1% of students in Dahm, Samonte, and Shows' (2009) study found produce as the highest recognized forms. The current study also found produce (98.6%) as a highly recognized form. They also showed recognition of dairy (91.9%), meat (83.4%), and grain products (82.9%). Yiridoe et al. (2005) found that people did not purchase organic food because of lack of awareness. This study suggests that students are aware of organic options.

Students' overall attitudes of organic foods were different in this study when compared to Dahm, Samonte, and Shows (2009). Dahm, Samonte, and Shows (2009) found more than half of their students (56.4%) of students to have a neutral opinion



about organic food. This study found 22.8% to have a neutral opinion about food. This shows a relationship with the 89.3% of irregular organic food consumers.

Previous research found 72.1% of college students surveyed would purchase a product because of the health claim on the label (Marietta et al., 1999). This study found that nutrition labeling on organic food does influence their decision to purchase organic food. Since package information is a factor that influences students' decisions to purchase food, it would be advised to know what package attributes cause consumer to purchase goods. Location of nutrition information, color of packaging, etc. could help marketers entice more consumers They can also use packaging attributes and the placement of country of origin to entice consumers.

The students ranked government websites as most trustworthy and visited them the most often to find information about food. In 2006, 72% of college students in Davy, Benes, and Driskell's (2006) study used television the most to find information about food nutrition. This study found students to use televisions fifth when finding information about food and the third trustworthy source of information. In less than ten years, the Internet has become a highly used source of information. Social media sites can be held responsible for the decline in television, radio, magazines and newspapers are sources of information.

Based on students' perceptions of organic food, students had a positive correlation with their willingness to pay a price premium for organic food ( $\alpha = .192$ ). This agrees with Yirdioe et al.'s (2005) study, which found consumers tend to be willing to pay higher price premiums for organic products with shorter shelf life, such as fruits

and vegetables, compared to products like cereal. The students in this particular study accepted organic foods therefore were willing to pay a price premium.

A limitation to this study was that the correct organic definition was not provided when students answered questions about their perceptions of organic food. It is recommended that the definition be provided for a more accurate answer.

It is recommended for this study to be replicated using other college students at different universities. For example, the demographics of students at New York University in New York City most likely have different demographics, opinions, and point of views on organic food than students in College Station, Texas. This replication should occur to determine if there are other factors that influence students' perceptions of organic food. Replicating Dahm and Shows (2009) and Beaudreault (2009) in other geographical locations around the United States could identify more factors among different students.

A qualitative study could also be conducted to get students' personal opinions as to why they choose to purchase organic food. It would be interesting to get personal accounts of students selecting products at point of sale to see whether marketing promotions, celebrities, family, cost, and other factors that are driving them to make those purchasing decisions.

If students are easily influenced by non-reliable sources like celebrities, marketing companies can take advantage of signing celebrity endorsements to promote products. They can also use packaging attributes and the placement of country of origin to entice consumers.

The survey model used in this study can be replicated to know what sources students' use most often and how trustworthy they perceive those sources for topics other than food. Politics, education, consumer information, and other topics could easily be substituted for researchers to find out more information about a demographic.

#### 4. SUMMARY AND CONCLUSIONS

The majority of this particular group disagreed to most statements regarding the influence of their purchase of food. However, the students agreed that labels influence their opinion of food ( $M=2.95$ ,  $SD= .71$ ) suggests that labels do influence students' decisions to purchase food. Also, the study indicates that family influences students' decision to purchase food ( $M=2.93$ ,  $SD= .78$ ).

In regards to students' perception of organic food, students agreed that celebrities influence their opinion of organic food ( $M=2.56$ ,  $SD= .99$ ) suggests that celebrities do influence students' decisions to purchase organic food. Also, the study found that labels on organic food influence their perception of organic food ( $M=2.60$ ,  $SD= .82$ ).

Moore-Shay and Lutz (1988) found that 46% of mothers accurately predicted their daughters' preferences when selecting high-visibility brands while grocery shopping. In this study, families had a significant influence on students' decisions to purchase food. This further emphasizes the importance of labeling. The Packer (2002) reported that 87% of US respondents identified taste as the primary factor considered when purchasing fresh produce. Even though this study did not focus on produce specifically, it found that package information as the most important factor when ranking food attributes.

Dahm, Samonte, and Shows' (2009) study recorded 49% of students knew the correct definition of organic and 31.7% recognized the USDA organic seal. Students in this study were more knowledgeable with 73.7% of students identifying the correct

definition of organic and 69.2% correctly recognized the USDA organic seal. Of the organic foods available, 87.1% of students in Dahm, Samonte, and Shows' (2009) study found produce as the highest recognized forms. The current study also found produce (98.6%) as a highly recognized form. They also showed recognition of dairy (91.9%), meat (83.4%), and grain products (82.9%). Yiridoe et al. (2005) found that people did not purchase organic food because of lack of awareness. This study suggests that students are aware of organic options.

Students' overall attitudes of organic foods were different in this study when compared to Dahm, Samonte, and Shows (2009). Dahm, Samonte, and Shows (2009) found more than half of their students (56.4%) of students to have a neutral opinion about organic food. This study found 22.8% to have a neutral opinion about food. This shows a relationship with the 89.3% of irregular organic food consumers.

Previous research found 72.1% of college students surveyed would purchase a product because of the health claim on the label (Marietta et al., 1999). This study found food advertisements do influence their decision to purchase organic food ( $M= 2.65$ ,  $SD=.86$ ). Since package information is a factor that influences students' decisions to purchase food, it would be advised to know what package attributes cause consumer to purchase goods. Location of nutrition information, color of packaging, etc. could help marketers entice more consumers They can also use packaging attributes and the placement of country of origin to entice consumers.

The students ranked government websites as most trustworthy and visited them the most often to find information about food. In 2006, 72% of college students in Davy,

Benes, and Driskell's (2006) study used television the most to find information about food nutrition. This study found students to use televisions fifth when finding information about food and the third trustworthy source of information. In less than ten years, the Internet has become a highly used source of information. Social media sites can be held responsible for the decline in television, radio, magazines and newspapers are sources of information.

On the basis of students' perceptions of food, those students in the departments of animal science ( $\alpha = -.296$ ) and agricultural leadership, education, and communication ( $\alpha = -.434$ ) were not willing to pay a price premium for organic produce. Both of these departments are agriculture-based where students have a closer relationship to food production.

Based on students' perceptions of organic food, students had a positive correlation with their willingness to pay a price premium for organic food ( $\alpha = .192$ ). This agrees with Yirdioe et al.'s (2005) study, which found consumers tend to be willing to pay higher price premiums for organic products with shorter shelf life, such as fruits and vegetables, compared to products like cereal. The students in this particular study accepted organic foods therefore were willing to pay a price premium.

If a major public institution like Texas A&M University produced results that show students are knowledgeable about organic food, other institutions should replicate this study on a more personal level. It is recommended for this study to be replicated using other college students at different universities. For example, the demographics of students at New York University in New York City most likely have different

demographics, opinions, and point of views on food than students in College Station, Texas. This replication should occur to determine if there are other factors that influence students' perceptions of food. Replicating Dahm and Shows (2009) and Beaudreault (2009) in other geographical locations around the United States could identify other influential factors among students. In addition, future research should be conducted to find differences among genders and their perceptions of food.

Future researchers should conduct a qualitative study to get students' personal opinions as to why they choose to purchase food. Since there was difference in willingness to pay a price premium for organic food between departments, researchers can also get personal accounts of students' attitudes towards organic food and why they are more or less willing to spend a price premium. It would be interesting to get personal accounts of students selecting products at point of sale to see whether marketing promotions, celebrities, family, cost, and other factors that are driving them to make those purchasing decisions.

If students are easily influenced by non-reliable sources like celebrities, marketing companies can take advantage of signing celebrity endorsements to promote products. They can also use packaging attributes and the placement of country of origin to entice consumers. The USDA should realize the importance of getting products USDA certified and having the USDA Organic seal on their packaging gets people's attention.

Future researchers and educators can use the survey model in this study to know what sources students' use most often and how trustworthy they perceive those sources for topics other than food. Politics, education, consumer information, and other areas of interest could easily be substituted for researchers to find out more information about a demographic.



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## APPENDIX A

TEXAS A&M UNIVERSITY  
DIVISION OF RESEARCH - OFFICE OF RESEARCH COMPLIANCE AND BIOSAFETY

1186 TAMU, General Services Complex  
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750 Agronomy Road, #3501

979.458.1467  
FAX 979.862.3176  
<http://researchcompliance.tamu.edu>

---

Human Subjects Protection Program

Institutional Review Board

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**APPROVAL DATE:** 15-May-2012

**MEMORANDUM**

**TO:** RUTHERFORD, TRACY  
**FROM:** Office of Research Compliance  
Institutional Review Board  
**SUBJECT:** Initial Review

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**Protocol Number:** 2012-0219  
**Title:** Influence of Media on Senior Seminar Students' Decision to Purchase Organic Produce  
**Review Category:** Expedited  
**Approval Period:** 15-May-2012 To 14-May-2013

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**Approval determination was based on the following Code of Federal Regulations:**

Eligible for Expedite Approval (45 CFR 46.110): Identification of the subjects or their responses (or the remaining procedures involving identification of subjects or their responses) will NOT reasonably place them at risk of criminal or civil liability or be damaging to their financial standing, employability, insurability, reputation, or be stigmatizing, unless reasonable and appropriate protections will be implemented so that risks related to invasion of privacy and breach of confidentiality are no greater than minimal.

-----  
Criteria for Approval has been met (45 CFR 46.111) - The criteria for approval listed in 45 CFR 46.111 have been met (or if previously met, have not changed).  
-----

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies.

(Note: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b) (3). This listing refers only to research that is not exempt.)

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**Provisions:**

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**Comments:**

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## APPENDIX B

[Email]

Subject: U4 Survey – Your Chance to win an HEB Gift Card

I, Lindsay M. Smith, am a master's student in the agricultural communications department. Below is a link to a survey that is part of my research for my master's thesis. It is a short, 10- minute survey about organic food. Upon completion of the survey, students will have the option to enter their email for a random drawing. Four winners will be randomly selected to receive a \$25 HEB gift card. Your participation is greatly appreciated!

[URL]

Thanks for your time,

Tracy Rutherford, Principal Investigator  
Lindsay M. Smith, Co-Investigator

This link is unique to you. Please do not forward it.

## APPENDIX C

### Default Question Block

**You are being invited to take part in a research study conducted by Texas A&M University and asked to read this form so that you know about this research study. The information in this form is provided to help you decide whether or not to take part in this study. If you decide you do not want to participate, there will be no penalty to you, and you will not lose any benefit you normally would have.**

#### **Procedures**

You will be provided with a survey consisting of no more than 25 questions and will take approximately 10 minutes or less. Questions are designed to determine your perceptions of organic food, your purchasing habits of produce, and from which sources of news you receive information about organic food.

#### **Risks/Discomforts**

Risks are minimal for involvement in this study. However, you may feel emotionally uneasy when asked certain questions about your purchasing behavior. Even though we do not expect any harm to come upon any participants due to electronic malfunction of the computer, it is possible though extremely rare and uncommon. Although the researchers have tried to avoid risks, you may feel that some questions that are asked of you will be stressful or upsetting. You do not have to answer anything you do not want to.

#### **Benefits**

There are no direct benefits for participants. However, it is hoped that through your participation, you will be more aware of your purchasing behaviors.

#### **Confidentiality**

All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones). All questionnaires will be concealed, and no one other than the primary investigator and assistant researcher listed below will have access to them. The data collected will be stored in the HIPPA-compliant, Qualtrics-secure database until it has been deleted by the primary investigator

#### **Participation**

Participation in this research study is completely voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your academic status, GPA or standing with the university. If you desire to withdraw, please close your internet browser and notify the principal investigator at this email: (lindsaymsmith@tamu.edu).

Information about you will be kept confidential to the extent permitted or required by law. People who have access to your information include the Principal Investigator and research study personnel. Representatives of regulatory agencies such as the Office of Human Research Protections (OHRP) or (if FDA regulated) the Food and Drug Administration (FDA) and entities such as the Texas A&M University Human Subjects Protection Program may access your records to make sure the study is being run correctly and that information is collected properly.

### Questions about the Research

If you have questions regarding this study, you may contact (Lindsay Smith), at 410-428-9366, [lindsaysmith@tamu.edu](mailto:lindsaysmith@tamu.edu) or (Tracy Rutherford) (979) 458-2744, [trutherford@tamu.edu](mailto:trutherford@tamu.edu)

### Questions about your Rights as Research Participants

For questions about your rights as a research participant; or if you have questions, complaints, or concerns about the research and cannot reach the Principal Investigator or want to talk to someone other than the Investigator, you may call the Texas A&M Human Subjects Protection Program office.

- Phone number: (979) 458-4067
- Email: [irb@tamu.edu](mailto:irb@tamu.edu)

### MAY I CHANGE MY MIND ABOUT PARTICIPATING?

You have the choice whether or not to be in this research study. You may decide to not begin or to stop the study at any time. If you choose not to be in this study, there will be no effect on your student status, medical care, employment, evaluation, etc. You can stop being in this study at any time with no effect on your student status, medical care, employment, evaluation, relationship with Texas A&M University, etc.

By participating in the surveys, you are giving permission for the investigator to use your information for research purposes.

Thank you,  
Lindsay M. Smith

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- I agree to participate in this survey.
- I decline to participate in this survey.

What is your major?

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- Political Science
- Agricultural Leadership, Education, and Communications
- Biology
- Animal Science

What is the USDA?

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- United States Dairy Awareness
- United States Department of Agriculture
- Universal Sector for Promoting Agriculture

To your best knowledge, what is the USDA's definition of "organic"?

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- Products grown with a minimal amount of fertilizers and pesticides as a second line of defense

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- Products grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms, or ionizing radiation.
- Products that do not contain any artificial flavoring, coloring, or chemical preservatives
- I do not know

To the best of your knowledge, where can organic foods be purchased? Check all that apply.

- Grocery Store (HEB, Kroger)
- Health food store (Village Foods, Whole Foods, Central Market)
- Fast Food (McDonald's, Burger King, Taco Bell)
- Casual Dining Restaurants (Cheddar's, Olive Garden, Casa Ole')

Which label is correct for the USDA's identification for organic food?



To your best knowledge, in what form is organic food available? Please check all that apply.

- Produce (fruits, vegetables, herbs)
- Dairy (milk, yogurt, cheese)
- Meat (beef, chicken, eggs)
- Candy
- Beverages (teas, sodas, juices)
- Snacks (chips, cookies, crackers)
- Grain products (cereals, pastas, rice)

How often do you buy organic produce?

- Never
- 25% of the time
- 50% of the time
- 75% of the time
- All of the time, 100%

Which statement best describes your overall attitude organic foods?

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- I only eat organic foods.
- I accept organic foods.
- I have no opinion about organic foods.
- I have a negative attitude about organic food.
- I don't eat organic food.

How important are these factors to your decision to purchase organic food? Please drag and drop to order the factors from most important (1) to least important (6).

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Appearance

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Availability

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Country of Origin

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Package Information

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Price

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Taste

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How important are these factors to your decision to purchasing non- organic food? Please drag and drop to order the factors from most important (1) to least important (6).

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Appearance

---

Availability

---

Country of Origin

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Package Information

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Price

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Taste

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What percent more are you willing to pay for organic foods above non-organic food prices? For example, if you were to purchase a bag of salad for \$4.00, how much more would you be willing to pay for organic?

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- 0%(I would not pay more for organic)
- 5% (\$4.20 for a bag)
- 25% (\$5.00 for a bag)

- 50% (\$6.00 for a bag)
- 100% (\$8.00 for a bag)

Mark which statement best describes your opinion of organic food.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Neither Agree nor Disagree
Brands of organic food products do not influence my perception of organic foods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labels on organic foods influence my perception of organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prices of organic food do not influence my perception of organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family influences me to purchase organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Internet influences me to purchase non-organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friends do not influence me to buy organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Celebrities' (musicians, actors, writers, athletes) influence me to purchase organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view celebrities' (musicians, actors, writers, athletes) perceptions of organic food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Politicians influence me to purchase organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view politicians' (local and national) perceptions of organic food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organic food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) positively influence me to purchase organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view celebrities' (musicians, actors, artists, athletes) perceptions of non-organic food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Politicians influence me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Mark which statement best describes your opinion of food.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Neither Agree nor Disagree
Brands of food products do not influence my perceptions of food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Labels on food influence my perceptions of food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prices of food do not influence my perception of food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My family influences me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Internet influences me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My friends do not influence me to buy food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Celebrities' (musicians, actors, writers, athletes) influence me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view celebrities' (musicians, actors, writers, athletes) perceptions of non-organic food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Politicians influence me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view politicians' (local and national) perceptions of food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food advertisements (including radio, newspapers, television, billboards, direct mail, Internet, etc.) positively influence me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view celebrities' (musicians, actors, artists, athletes) perceptions of non-organic food as positive.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Politicians influence me to purchase non-organic food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Internet influences me to purchase food.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the next question, please drag and drop the items in order of most trustworthy (1) to least trustworthy (6) you perceive these sources of information to be.

Government Internet (.gov, .edu, .org)

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Social Media (Facebook, YouTube, Twitter)

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Blogs

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Magazines and Newspapers

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Television

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Radio

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For the next question, please order the sources of information for which you use the most (1) to the least (6) to find information about food.

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Government Internet (.gov, .edu, .org)

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Social Media (Facebook, YouTube, Twitter)

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Blogs

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Magazines and Newspapers

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Television

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Radio

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Do you think you lead a healthy lifestyle?

- Yes
- No

What healthy practices do you engage in? (Select all that apply)

- Eat a healthy diet
- Exercise 2-3 times per week
- Don't use tobacco
- Don't drink alcohol
- Drink alcohol in moderation
- Average 7-8 hours of sleep per night

What is your gender?

- Male
- Female

When is your expected graduation year?

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- 2012
- 2013
- 2014

How would you describe your race/ethnicity?

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- African-America
- American Indian
- Asian, Pacific Islander
- Hispanic
- White, non-Hispanic
- Other

I consider my political beliefs to be:

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- Conservative
- Liberal
- Moderate
- I don't know.

If you wish to be entered in the random drawing for an HEB gift card, please enter your email:

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